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09/176,639	10/20/1998	RICHARD ROBERT SCHEDIWY	20864.00600 2112	
75	90 06/02/2004		EXAMINER	
ANDREW D. GATHY SIERRA PATENT GROUP LTD			KUMAR, SRILAKSHMI K	
PO BOX 6149			ART UNIT	PAPER NUMBER
STATELINE, NV 89449			2675	20
		DATE MAILED: 06/02/2004		

Please find below and/or attached an Office communication concerning this application or proceeding.

	· · · · · · · · · · · · · · · · · · ·	Application No.	Applicant(s)
Office Action Summary		09/176,639	SCHEDIWY ET AL.
		Examiner	Art Unit
		Srilakshmi K. Kumar	2675
	The MAILING DATE of this communication app		<u> </u>
Period fo	• •		
THE - External after - If the - If NO - Failure - Any	MAILING DATE OF THIS COMMUNICATION. Insions of time may be available under the provisions of 37 CFR 1.1 SIX (6) MONTHS from the mailing date of this communication. It is period for reply specified above is less than thirty (30) days, a replay period for reply is specified above, the maximum statutory period are to reply within the set or extended period for reply will, by statute reply received by the Office later than three months after the mailing ed patent term adjustment. See 37 CFR 1.704(b).	36(a). In no event, however, may a reply be ting within the statutory minimum of thirty (30) day will apply and will expire SIX (6) MONTHS from e, cause the application to become ABANDONE	nely filed s will be considered timely. the mailing date of this communication. D (35 U.S.C. § 133).
1)⊠	Responsive to communication(s) filed on 10 I	February 2003 .	
2a)⊠	This action is FINAL . 2b) Th	nis action is non-final.	
3)	closed in accordance with the practice under	•	
· _	ion of Claims		
•	Claim(s) <u>16-51</u> is/are pending in the application		
	4a) Of the above claim(s) is/are withdraged Claim(s) is/are allowed.	wit itom consideration.	
	Claim(s) is/are allowed. Claim(s) <u>16-51</u> is/are rejected.		
	Claim(s) <u>10-51</u> is/are rejected. Claim(s) is/are objected to.		
<u> </u>		or election requirement.	
	ion Papers	o,oodon roquironnona	
9)	The specification is objected to by the Examine	er.	
10)	The drawing(s) filed on is/are: a)☐ acce	pted or b)⊡ objected to by the Exa	miner.
	Applicant may not request that any objection to th	e drawing(s) be held in abeyance. S	ee 37 CFR 1.85(a).
11)	The proposed drawing correction filed on	_ is: a)□ approved b)□ disappro	oved by the Examiner.
	If approved, corrected drawings are required in re	ply to this Office action.	
12)	The oath or declaration is objected to by the Ex	raminer.	
Priority (under 35 U.S.C. §§ 119 and 120		
13)	Acknowledgment is made of a claim for foreign	n priority under 35 U.S.C. § 119(a	a)-(d) or (f).
a)	☐ All b)☐ Some * c)☐ None of:		
	1. Certified copies of the priority document	ts have been received.	
	2. Certified copies of the priority document	s have been received in Applicat	ion No
* (3. Copies of the certified copies of the prio application from the International Buse the attached detailed Office action for a list	reau (PCT Rule 17.2(a)).	
	Acknowledgment is made of a claim for domest	•	
_	a) The translation of the foreign language pro Acknowledgment is made of a claim for domest		
Attachmer	·		
2) Notic	ce of References Cited (PTO-892) ce of Draftsperson's Patent Drawing Review (PTO-948) mation Disclosure Statement(s) (PTO-1449) Paper No(s) _	5) Notice of Informal	y (PTO-413) Paper No(s) Patent Application (PTO-152)

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DETAILED ACTION

The following office action is in response to Amendment B, filed February 10, 2003. Claims 13-15 have been canceled and claims 16-51 have been newly added.

Claim Rejections - 35 USC § 112

- 1. The following is a quotation of the first paragraph of 35 U.S.C. 112:
 - The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.
- 2. Claims 16-25, 28, 30, 41, 44 and 51 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

As to independent claim 16, the limitations of "said touch later having a conductivity selected to create an electrical image of a conductive object that is larger...", specifically where conductivity is selected to create an electrical image, is not shown in the specification, and thus would be considered new matter.

As to dependent claim 41, the limitation of, "said insulative layer including a touch surface", is not disclosed in the specification. The manner in which this limitation is disclosed in the claims suggests the insulative layer is the touch surface, which is not shown in the specification, and thus would be considered new matter.

As to independent claim 51, the limitation of, "said touch layer configured to diffuse an electrical signal a selected distance from a conductive object contacting said touch layer",

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specifically diffuse an electrical signal a selected distance, is not disclosed in the specification, and thus would be considered new matter.

As to dependent claim 17, the limitation of, "wherein said sensor layer differs in size from on the said insulative layer and said touch layer" is not disclosed in the specification, and thus would be considered new matter.

As to dependent claim 18, the limitation of, "wherein said insulative layer differs in size from one of said touch layer and said sensor layer" is not disclosed in the specification, and thus would be considered new matter.

As to dependent claim 19, the limitation of, "wherein said sensor layer differs in shape from one of said insulative layer and said touch layer" is not disclosed in the specification, and thus would be considered new matter.

As to dependent claim 20, the limitation of, "wherein said insulative layer differs in shape from one of said touch layer and said sensor layer" is not disclosed in the specification, and thus would be considered new matter.

As to dependent claim 21, see the explanation of new matter in claims 16 and 51, above.

As to dependent claim 22, the limitation of, "...a larger capacitive plate for coupling to said sensor layer..." is not disclosed in the specification, and thus would be considered new matter.

As to dependent claim 23, see the explanation of new matter in claims 16 and 51, above.

As to dependent claim 24, the limitation of, "...to limit the size of said electrical image within the limits of said sensor layer", is not disclosed in the specification, and thus would be considered new matter.

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As to dependent claim 25, the limitation of, "wherein said touch layer is formed with a conductive material disposed in a <u>plastic carrier</u>", specifically the plastic carrier, is not disclosed in the specification, and thus would be considered new matter.

As to dependent claim 28, the limitation of, "a <u>display in operative communication below</u> said sensor layer", is not disclosed in the specification, and thus would be considered new matter.

As to dependent claim 30, the limitation of, "wherein a user is in electrical communication with said conductive object" is not disclosed in the specification, and thus would be considered new matter.

As to dependent claim 44, the limitation of, "wherein said <u>visual mark is produced by chemical reaction</u> resulting from contact of said conductive object" is not disclosed in the specification, and thus would be considered new matter.

Claim Rejections - 35 USC § 103

- 3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
 - (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
- 4. Claims 16-25, 27-51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grabner et al (US 4,731,694) in view of Greanias et al. (US 5,386,219).

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As to independent claims 16, 37 and 51, Grabner et al disclose a touch pad system comprising, a sensor layer (Fig. 1, items 7 and 8), an insulative layer, (Fig. 1, item 24) (col. 3, lines 20-22, 31-61 and col. 4, lines 26-30). In a special embodiment of the touch pad, the insulative layer 24 also comprises a metallized layer as a conductor on upper flat surface. It would have been obvious that this extra layer shows the three layers of the touch pad with the sensor layer on the bottom, the insulative layer on top of the sensor layer and the conductive layer on top of the insulative layer. This order could be advantageous as to have better touch detection.

Grabner et al do not disclose where said touch layer having a conductivity selected to create an electrical image of a conductive object that is larger than an area of contact of said conductive object contacting said touch layer.

Greanias et al discloses in col. 5, lines 58-63 where the conductive object may be either a finger or a stylus. Greanias et al disclose and wherein said touch pad module when used in conjunction with said electronic device can analyze capacitive measurements emanated from said module to enable said device to distinguish finger and stylus contact in col. 3, lines 39-col. 4, line 32, col. 7, lines 57-col. 8, line 40. Greanias et al disclose in col. 6, lines 46-50, where the signal from the conductive object radiates. Greanias et al disclose in col. 4, lines 39-68 and col. 6, lines 31-54, wherein the conductive layer is of a resistance as to expand a small contact area of a tip of a conductive stylus into an image of suitable size for position measurement.

It would have been obvious to one of ordinary skill in the art to combine the system of Grabner et al with that of Greanias et al as they both disclose a touch panel with sensor, insulative and conductive layers where a finger or stylus may be used. The system as disclosed

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by Greanias et al is advantageous as it can distinguish between a finger and stylus, and where the signals from the conductive object radiate, and increases the speed at which the presence of a conductive can be detected as well as improve the accuracy of determining the position of the conductive object as shown in col. 3, lines 25-34.

As to independent claims 41 and 42, limitations of claims 16, 37 and 51, and further comprising, wherein a visual mark of a conductive object contacting said touch surface is produced. Grabner and Greanis do not explicitly disclose a visual mark of a conductive object. It would have been obvious to one of ordinary skill in the art that a visual mark would be present as systems disclosed by Grabner and Greanis disclose touch/stylus input and further, it is well known in the art that touch input systems such as personal digital assistants show visual marks.

As to dependent claim 17, limitations of claim 16, and further comprising, wherein said sensor layer differs in size from on the said insulative layer and said touch layer. Grabner and Greanis do not disclose this feature, however the Examiner takes Official Notice, as the limitation of where the layers differ in size is well known in the art.

As to dependent claim 18, limitations of claim 16, and further comprising, wherein said insulative layer differs in size from one of said touch layer and said sensor layer. Grabner and Greanis do not disclose this feature, however the Examiner takes Official Notice, as the limitation of where the layers differ in size is well known in the art.

As to dependent claim 19, limitations of claim 16, and further comprising, wherein said sensor layer differs in shape from one of said insulative layer and said touch layer. Grabner and Greanis do not disclose this feature, however the Examiner takes Official Notice, as the limitation of where the layers differ in size is well known in the art.

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As to dependent claim 20, limitations of claim 16, and further comprising, wherein said insulative layer differs in shape from one of said touch layer and said sensor layer. Grabner and Greanis do not disclose this feature, however the Examiner takes Official Notice, as the limitation of where the layers differ in size is well known in the art.

As to dependent claims 21-24, see limitations of claims 16, 37 and 51, above.

As to dependent claim 25, limitations of claim 16, and further comprising, wherein said touch layer is formed with a conductive material disposed in a plastic carrier. Grabner et al do not disclose the feature of a plastic carrier. Greanis et al disclose a plastic carrier in col. 5, lines 48-63. It would have been obvious to one of ordinary skill in the art to combine the system of Grabner et al with that of Greanias et al as they both disclose a touch panel with sensor, insulative and conductive layers where a finger or stylus may be used. The system as disclosed by Greanias et al is advantageous as it can distinguish between a finger and stylus, and where the signals from the conductive object radiate, and increases the speed at which the presence of a conductive can be detected as well as improve the accuracy of determining the position of the conductive object as shown in col. 3, lines 25-34.

As to dependent claim 27, limitations of claim 16, and further comprising, wherein said insulative layer, said touch layer and said sensor layer are transparent (col. 3, lines 20-22, 31-61 and col. 4, lines 26-30).

As to dependent claim 28, limitations of claim 27, and further comprising, wherein a display in operative communication below said sensor layer. Greanis et al in Fig. 1 show a display. It would have been obvious to one of ordinary skill in the art to combine the system of Grabner et al with that of Greanias et al as they both disclose a touch panel with sensor,

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by Greanias et al is advantageous as it can distinguish between a finger and stylus, and where the signals from the conductive object radiate, and increases the speed at which the presence of a conductive can be detected as well as improve the accuracy of determining the position of the conductive object as shown in col. 3, lines 25-34.

As to dependent claim 29, limitations of claim 28, and further comprising, wherein said display is configured to provide visual feedback to a user of the touch pad system. Grabner and Greanis do not explicitly disclose a visual mark feedback. It would have been obvious to one of ordinary skill in the art that a visual mark feedback would be present as systems disclosed by Grabner and Greanis disclose touch/stylus input and further, it is well known in the art that touch input systems such as personal digital assistants show visual marks.

As to dependent claim 30, see limitations of claims 16, 37 and 51, above.

As to dependent claim 31, limitations of claim 16, and further comprising, wherein said conductive object comprises one of metal and conductive plastic, wherein said conductive object is electrically conductive. Grabner et al and Greanis et al do not explicitly disclose the feature of where the conductive object comprises one of metal and conductive plastic. It would have been obvious to one of ordinary skill in the art that the conductive object comprises one of metal and conductive plastic as such materials are required in order to effectively use the conductive object on the touch pad system.

As to dependent claim 32, limitations of claim 16, and further comprising, wherein said conductive object includes a conductive tip, said conductive tip is selected from the group consisting of a wide stylus, a ball of conductive foam, and a circular metal plate with a ball joint.

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Grabner et al and Greanis et al do not disclose where a conductive tip is selected from the group consisting of a wide stylus, a ball of conductive foam, and a circular metal plate with a ball joint, however the Examiner takes Official Notice, as the limitation of different conductive tips is well known in the art.

As to dependent claim 33, limitations of claim 16, and further comprising, wherein said conductive object comprises a fine tipped conductive pen. Grabner et al and Greanis et al do not disclose where a conductive object comprises a fine tipped conductive pen, however the Examiner takes Official Notice, as the limitation of a fine tipped conductive pen is well known in the art.

As to dependent claim 34, limitations of claim 16, and further comprising, wherein a bezel disposed on said touch layer, wherein said bezel is configured to prevent edge distortion. Grabner et al do not disclose the feature of a bezel. Greanis et al disclose the feature of a bezel to prevent edge distortion in col. 5, lines 48-63. It would have been obvious to one of ordinary skill in the art to combine the system of Grabner et al with that of Greanias et al as they both disclose a touch panel with sensor, insulative and conductive layers where a finger or stylus may be used. The system as disclosed by Greanias et al is advantageous as it can distinguish between a finger and stylus, and where the signals from the conductive object radiate, and increases the speed at which the presence of a conductive can be detected as well as improve the accuracy of determining the position of the conductive object as shown in col. 3, lines 25-34.

As to dependent claims 35 and 36, limitations of claim 16, and further comprising, wherein the touch pad system is configured to compensate for edge distortion by calibration means, wherein said calibration means comprises, measurement of a stylus position at locations

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on said sensor layer; tabulation of said measurements of said stylus position; development of mathematical function from said tabulation and calculation of a correction function from said mathematical function. Grabner et al and Greanis et al do not disclose the feature of compensating edge distortion by calibration means, however the Examiner takes Official Notice, as the limitation of compensating edge distortion by calibration means is well known in the art.

As to dependent claim 38, see limitations of claims 16, 37 and 51, above.

As to dependent claim 39, limitations of claim 37, and further comprising, wherein said means for distinguishing an identity of said conductive object comprises a means based on a fluctuating capacitance signal, wherein said conductive object contacting said conductive layer includes a contact area and said contact area is variable for a finger contacting said conductive layer and said contact area is substantially constant for a stylus contacting said conductive layer. Grabner et al do not disclose this feature. Greanis et al disclose wherein said means for distinguishing an identity of said conductive object comprises a means based on a fluctuating capacitance signal, wherein said conductive object contacting said conductive layer includes a contact area and said contact area is variable for a finger contacting said conductive layer and said contact area is substantially constant for a stylus contacting said conductive layer in col. 7, lines 33-col. 8, line 50 and col. 9, line 59-col. 10, line 10. It would have been obvious to one of ordinary skill in the art to combine the system of Grabner et al with that of Greanias et al as they both disclose a touch panel with sensor, insulative and conductive layers where a finger or stylus may be used. The system as disclosed by Greanias et al is advantageous as it can distinguish between a finger and stylus, and where the signals from the conductive object radiate, and

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increases the speed at which the presence of a conductive can be detected as well as improve the accuracy of determining the position of the conductive object as shown in col. 3, lines 25-34.

As to dependent claim 40, limitations of claim 37, and further comprising, wherein said means for distinguishing an identity of said conductive object comprises a means based on a strength of a capacitive signal, wherein a stylus produces an immediate full strength capacitive signal upon contacting said conductive layer and a finger produces a gradually increasing capacitive signal as said finger approaches contacting said conductive layer. Grabner et al do not disclose this feature. Greanis et al disclose means for distinguishing an identity of said conductive object comprises a means based on a strength of a capacitive signal, wherein a stylus produces an immediate full strength capacitive signal upon contacting said conductive layer and a finger produces a gradually increasing capacitive signal as said finger approaches contacting said conductive layer in col. 7, lines 33-col. 8, line 50 and col. 9, line 59-col. 10, line 10. It would have been obvious to one of ordinary skill in the art to combine the system of Grabner et al with that of Greanias et al as they both disclose a touch panel with sensor, insulative and conductive layers where a finger or stylus may be used. The system as disclosed by Greanias et al is advantageous as it can distinguish between a finger and stylus, and where the signals from the conductive object radiate, and increases the speed at which the presence of a conductive can be detected as well as improve the accuracy of determining the position of the conductive object as shown in col. 3, lines 25-34.

As to dependent claims 43 and 44, see limitations of claims 41 and 42, above.

As to dependent claim 45, limitations of claim 42, and further comprising, wherein said visual mark is an alteration in at least one of color and reflectivity produced by mechanical

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contact of said conductive object with said conductive layer. Grabner et al and Greanis et al do not disclose the feature said visual mark is an alteration in at least one of color and reflectivity produced by mechanical contact of said conductive object with said conductive layer, however the Examiner takes Official Notice, as the limitation of said visual mark is an alteration in at least one of color and reflectivity produced by mechanical contact of said conductive object with said conductive layer is well known in the art.

As to dependent claim 46, limitations of claim 42, and further comprising, wherein said visual mark is produced by a sacrificial material on a tip of said conductive object in response to mechanical contact of said conductive object with said conductive layer. Grabner et al and Greanis et al do not disclose the feature of where the visual mark is produced by a sacrificial material on a tip of said conductive object, however the Examiner takes Official Notice, as the limitation of where the visual mark is produced by a sacrificial material on a tip of said conductive object is well known in the art.

As to dependent claim 47, limitations of claim 46, wherein said sacrificial material is pencil graphite. Grabner et al and Greanis et al do not disclose the feature of where sacrificial material is pencil graphite, however the Examiner takes Official Notice, as the limitation of where sacrificial material is pencil graphite is well known in the art.

As to dependent claim 48, limitations of claim 42, and further comprising, wherein said visual mark is produced by a groove in a surface of said conductive layer in response to mechanical contact of said conductive object with said conductive layer, wherein said surface of said conductive layer comprises a pliant material. Grabner et al do not disclose this feature.

Greanis et al disclose visual mark is produced by a groove in a surface of said conductive layer

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in response to mechanical contact of said conductive object with said conductive layer, wherein said surface of said conductive layer comprises a pliant material as is shown in Fig. 4. It would have been obvious to one of ordinary skill in the art to combine the system of Grabner et al with that of Greanias et al as they both disclose a touch panel with sensor, insulative and conductive layers where a finger or stylus may be used. The system as disclosed by Greanias et al is advantageous as it can distinguish between a finger and stylus, and where the signals from the conductive object radiate, and increases the speed at which the presence of a conductive can be detected as well as improve the accuracy of determining the position of the conductive object as shown in col. 3, lines 25-34.

As to dependent claim 49, limitations of claim 42, and further comprising, wherein said visual mark produced by mechanical contact of said conductive object with said conductive layer is removable. Grabner et al and Greanis et al do not disclose where the visual mark is removable, however the Examiner takes Official Notice, as the limitation of where the visual mark is removable is well known in the art.

As to dependent claim 50, limitations of claim 42, and further comprising, wherein said visual mark is produced by a layer of liquid crystal material coupled to said conductive layer in response to mechanical contact of said conductive object with said conductive layer. Grabner et al and Greanis et al do not disclose where visual mark is produced by a layer of liquid crystal material coupled to said conductive layer in response to mechanical contact of said conductive object with said conductive layer, however the Examiner takes Official Notice, as the limitation of where visual mark is produced by a layer of liquid crystal material coupled to said conductive

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layer in response to mechanical contact of said conductive object with said conductive layer is well known in the art.

5. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Grabner et al in view of DePalma et al. (US 5,558,977).

As to independent claim 26, limitations of claim 16, and further comprising, wherein said conductive material comprises carbon powder. Grabner et al do not disclose where the conductive material comprises carbon powder. DePalma et al discloses transparent conductive layer. In col. 2, lines 39-46 DePalma et al disclose where conductive layers have been described to contain conductive carbon particles. Further DePalma et al disclose in col. 11, lines 13-24 where these conductive layers are used in touch panels and liquid crystal displays. It would have been obvious to one of ordinary skill in the art to combine the system of Grabner et al with that of DePalma et al as DePalma et al disclose the composition of a conductive layer used in touch panels and liquid crystal displays. The addition of a conductive carbon in the conductive layer is advantageous as it would be an antistatic system which is one where the electrostatic charge can be dissipated as is advantageous as it reduces irregular fog patterns and provides a high degree of transparency as is disclosed in col. 1, lines 29-37 and col. 5, lines 26-40.

Response to Arguments

6. Applicant's arguments with respect to claims 16-51 have been considered but are most in view of the new ground(s) of rejection.

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Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

Or faxed to:

(703) 308-9051, (for formal communications intended for entry)

Or:

(703) 308-6606 (for informal or draft communications, please label

"PROPOSED" or DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal drive, Arlington, VA, Sixth Floor (Receptionist)

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Srilakshmi K. Kumar whose telephone number is 703 306 5575. The examiner can normally be reached on 8:00 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven J. Saras can be reached on 703 305 9720. The fax phone numbers for the organization where this application or proceeding is assigned are 703 872 9314 for regular communications and 703 308 9051 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 305 4700.

Srilakshmi K. Kumar Examiner Art Unit 2675

SKK May 30, 2004

DENNIS-DOON CHOW PRAMARY EXAMINER